
Methyl diglycol

Technical Datasheet

Chemical Characterization

Diethylene glycol monomethyl ether
2-(2-Methoxyethoxy)-ethanol

CAS-No.: 111-77-3

EINECS-No.: 203-906-6

Registrations: EINECS (Europe), TSCA (USA), AICS (Australian),
DSL (Canada), ECL (Korea), PICCS (Philippines), ENCS (Japan),
ASIA-PAC

Product Description

Methyl diglycol is a colorless, neutral, weakly hygroscopic and liquid with a mild pleasant odor. It is miscible in any ratio with water and the usual organic solvents e.g. acetone, diethyl ether and methanol.

Methyl diglycol is starting material for the production of methyl diglycol acetate. It is also used as a solvent for fats, oils and waxes; constituent of hydraulic fluids; additive in cleaners for soiled surfaces and starting material for syntheses. To prevent dermal exposure methyl diglycol is not suitable for any application in paints and paint strippers.

The technical characteristics of methyl diglycol enable it to meet the requirements stipulated for the technical Supply Conditions as drawn up in accordance with MIL-DTL-85470B in addition with an antioxidant (Clariant product name: Methyl diglycol JFA).

Storage Advices

Glycol ethers and their derivatives tend to form peroxides in the presence of air or oxygen. For further informations please refer to the safety data sheet.

Storage tanks should be made from norm-steel or stainless steel. Aluminum and other light metals are not suitable due to alcoholate formation with methyl diglycol.

We found the following materials suitable.

Pumps: chemistry rotary pumps (made from gray iron, type GG or GS) with slide ring sealing (combination e.g. Europac 600/Werkstoff KATGG, DIN 24960)

Flange seal: all elastomers should be tested before use (we recommend PTFE, ®Klingerit-ITC and rubber).

Methyl diglycol

Azeotropic mixtures

Methyl diglycol builds no azeotrope with water and diglycol; nevertheless with several other organic solvents. Some of them are listed here:

Methyl diglycol (in %)	Azeotrope with	in %	b.p. (°C) (at 1013 mbar)
80	acetophenone	20	191,90
46	amylether	54	179,50
49	dimethylaniline	51	184,85
33	dipentene	67	168,50
70	glycol	30	192,00
23	isoamylether	77	168,85
13	mesitylene	87	162,50
89	naphthaline	11	192,20
52	o-cresol	48	201,50
61	phenol	39	199,65
45	phenylacetate	55	188,60
30	p-cresol	70	208,00

Technical Data

molar mass	g/mol	120,2
solidification point (DIN 51583)	°C	-65
boiling range/1013 hPa	°C	190-196
flash point(DIN 51755)	°C	91
ignition temperature (DIN 51794)	°C	245
density/20°C (DIN 51757)	g/cm ³	1,018-1,022
kinematic viscosity/20°C (DIN 51562)	mm ² /s	3,9
vapor pressure/20°C	mbar	0,3
heat of evaporation /1013 hPa	kJ/kg	396
evaporation number (DIN 53170, Diethylether = 1)		ca. 900
refractive number n _D 20 (DIN 51423, part 2)		1,4263
surface tension/25°C	mN/m	28,5
dielectric constant/20°C (DIN 53483)		15,8
specific heat /20°C	kJ/kgK	2,15
thermal conductivity /20°C	W/mK	0,18
critical density	g/cm ³	0,322
critical temperature	°C	357,1
critical pressure	bar	35,4
miscibility with water		miscible

Physical Data

vapor pressure

T (°C)	P (mbar)
0	0,04
10	0,11
20	0,26
40	1,19
60	4,37
80	13,50
100	36,10
120	86,10
140	186,10
160	370,70
180	689,10
194,1	1013,00

density

T (°C)	ρ (g/ml)
0	1,044
10	1,033
20	1,021
40	0,997
60	0,974
80	0,949
100	0,925
120	0,900
140	0,874
160	0,848
180	0,821

viscosity

T (°C)	(mPa*s)
20	3,90
25	3,48
60	1,61

thermal conductivity (λ)

T (°C)	(mW/m*K)
30	184,6
40	183,3
50	182,0
60	180,7
70	179,4
80	178,1
90	176,8

surface tension (σ)

T (°C)	(mN/m)
25	28,49
30	28,23
35	28,03
40	27,81
45	27,57
50	27,35

This information is based on our present state of knowledge and is intended to provide general notes on our products and their uses. It should not therefore be construed as guaranteeing specific properties of the products described or their suitability for a particular application. Any existing industrial property rights must be observed. The quality of our products is guaranteed under our General Conditions of Sale.

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